Water Quality and Temperature Improvement:

CALFED Recommended Level of Funding: $5,003,000
Total Funds Obligated Through December 31, 1998: $5,003,000
Total Funds Expended Through December 31, 1998: $691,560

1) **Project Title:** Evaluation of Selenium Sources, Levels, and Consequences in the Delta

CALFED Recommended Level of Funding: $1,589,000
Total Funds Obligated Through December 31, 1998: $1,589,000
Total Funds Expended Through December 31, 1998: $225,420

Funding provided to: U.S. Geological Survey

Project Description: This 3-year study will provide a quantitative description of the different sources of selenium concentrations in the Bay-Delta, a determination of how changes in sources may affect selenium tissue concentrations in primary consumers, a linkage of selenium concentrations in primary consumers to uptake by predators, a direct determination of whether selenium affects reproduction and development in sturgeon, models which can forecast outcomes of alternative selenium remediation/restoration strategies, and a baseline of monitoring data.

Expected Project Completion Date: June 30, 2001

First Quarter Accomplishments:

Comparison of speciation among the Bay-Delta and the San Joaquin River continued during the quarter focusing on low inflow data accumulated in October 1998. Analysis of the data is in progress. Monthly water sampling continues at Vernalis and Freeport beginning in November 1998. Continued work on conceptual models of source, speciation, transport, fate and effect.

2) **Project Title:** Assessment of Organic Matter in the Habitat and Its Relationship to the Food Chain

CALFED Recommended Level of Funding: $1,400,000
Total Funds Obligated Through December 31, 1998: $1,400,000
Total Funds Expended Through December 31, 1998: $381,573

Funding provided to: U.S. Geological Survey

Project Description: Research proposal for a comprehensive assessment of the production, import, utilization, and export of the organic matter that serves as food resource for fish in their early life stages. Lower tropic level ecosystem functions potentially limit fish population growth in the Delta. Benefits to multiple fish species. First year of funding was recommended (total estimated project cost is $1,400,000 for a 3-year project).

Expected Project Completion Date: April 30, 1999

First Quarter Accomplishments:

The first sampling for this project was conducted from October 12-15, 1998. USGS collected water, seston, zooplankton, and sediment samples from 10 sites across the Delta, representing the full spectrum of habitat types. The

results confirm a basic hypothesis of the study: there are large spatial variations in the quantity and quality of the organic matter across the gradient of habitat types within the Delta.

3) **Project Title:** Bacterial Treatment of Selenium in the Panoche Drainage

CALFED Recommended Level of Funding:	$1,149,000
Total Funds Obligated Through December 31, 1998:	$1,149,000
Total Funds Expended Through December 31, 1998:	$66,973

Funding provided to: U.S. Bureau of Reclamation

Project Description: The Algal-Bacterial Selenium Removal Facility has been operating for a year in the Panoche Drainage District near Firebaugh. The facility consists of two identical systems in which algae are grown, harvested, and then used as a bacterial substrate for selenium reduction from subsurface agricultural drainage water. Funding of this project will allow the continued operation of the facility for 3 years. Panoche Drainage District and Enrico Farms, Inc., are hosting the facility. Funding will be provided to the University of California, Berkeley (Lawrence Berkeley Laboratory) for accomplishment of this task.

Expected Project Completion Date: September 30, 2001

First Quarter Accomplishments:

In October installation of a floating surface cover on the North Reduction Pond was completed. Larger diameter piping was installed for one hydraulic transfer. The original piping had lost capacity due to excessive scaling. The flow treated by the Mode 2 Algal-Bacterial Selenium Removal (ASBR) System was gradually increased 170% from 4,600 to 7,900 gallons per day during September through November. The Mode 1 ASBR System flow has been maintained at 4,600 gallons a day. Weekly samples of the influent and effluent of each pond of the ASBR Systems have been collected and analyzed. Began testing and adapting to the ASBR samples, standard methodologies for determination of unfiltered total selenium. Invertebrate sampling was conducted for the purpose of genus identification and selenium analysis.

4) **Project Title:** Sand and Salt Creek Watershed Project

CALFED Recommended Level of Funding:	$599,000
Total Funds Obligated Through December 31, 1998:	$599,000
Total Funds Expended Through December 31, 1998:	$17,594

Funding provided to: U.S. Bureau of Reclamation

Project Description: This watershed management project is designed to assist private landowners in addressing non-point source pollution associated with grazing, almond orchards, and irrigated cropland. Management practices designed to reduce surface runoff containing pesticide residues and sediments will be implemented at twenty selected sites. In addition, grade stabilization structures will be constructed within the watershed. The U.S. Bureau of Reclamation will coordinate this project with the Colusa County

Resource Conservation District and the Natural Resources Conservation Service.

Expected Project Completion Date: December 31, 1999

First Quarter Accomplishments:

Held an introductory Public Meeting and Steering Committee Meeting, prepared responsiveness summary, and developed a rating system.

5) **Project Title:** Integrated Pest Management in Suisun Bay Program

CALFED Recommended Level of Funding:	$266,000
Total Funds Obligated Through December 31, 1998:	$266,000
Total Funds Expended Through December 31, 1998:	$0

Funding provided to: U.S. Bureau of Reclamation

Project Description: The program builds on an existing pilot project to educate the public and change their behavior regarding urban pesticide use to move towards integrated pest management. This program uses targeted public information and educational programs developed in the pilot project. This program is designed to reduce runoff of pesticides from this urban area into the Delta near Suisun Bay and will include monitoring and evaluation of effectiveness. The U.S. Bureau of Reclamation will work with the Central Contra Costa Sanitary District to develop this program.

Expected Project Completion Date: August 31, 2001

First Quarter Accomplishments:

Drafted a Project Evaluation and Monitoring Plan and Quality Assurance Project Plan and submitted to the Bureau of Reclamation for review and approval. Issued a request for proposals for training consultants to train store employees in person and to develop a video as a supplemental training tool. Recruited 13 stores within central Contra Costa County to participate in the Integrated Pest Management Partnership Project and identified two additional stores to recruit. Drafted five new project fact sheets on the following topics: cockroaches, spiders, the proper use and disposal of pesticides, lawn care, and Managing Pests Naturally with a Healthy Garden.